ABSTRACT OF THE DISCLOSURE

[0149]   The present invention provides advanced encoding and advanced reconstruction apparatus and methods enabling low bitrate, enhanced coding and quality-enhanced reconstruction, among other aspects. Preferably operating in accordance with a super-domain model, the invention enables the superimposed use of advanced coding tools such as for determining the susceptibility of image data to optimization and degradation avoidance. Other preferred tools also include multi-dimensional diffusion, registration, meta data utilization, advanced constructs, image representation optimization and efficiency optimization. Advanced decoding further enables maximized utilization of received enhanced image data and other information, also preferably in accordance with a super-domain model. Advanced encoding preferably comprises reverse-superresolution encoding and advanced decoding preferably comprises advanced superresolution decoding, which can further be conducted in a distributed and/or cooperative manner.